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RUCNDT/USMISSION USUN NEW YORK 2319

RUEHNO/USMISSION USNATO 2642

RUCPDOC/DEPT OF COMMERCE WASHDC

RUEAIIA/CIA WASHDC

RHEFAAA/DIA WASHDC

RHEHNSC/NSC WASHDC 1183

RUEKJCS/SECDEF WASHDC 1099

RUEKJCS/JOINT STAFF WASHDC

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TAGS: <u>PGOV PREL EAID EAGR SOCI KZ</u>
SUBJECT: KAZAKHSTAN: PUBLIC-PRIVATE ALLIANCE LEADS TO INCREASED

PROFITABILITY IN DAIRY SECTOR AND COMMERICAL POSSIBILITES

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SUMMARY: The Sustainable Dairy Global Development Alliance (SD-GDA), initiated in 2006 by USAID in cooperation with U.S. and Kazakhstani based dairy farms and dairy service providers, is a public-private partnership designed to increase the profitability of small and medium sized dairy farms. Through the introduction of rotational grazing methods during the first several months of the project, dairy farms were able to increase milk production by 20 to 40 percent and reduce feed costs by 70 percent at two pilot farms. Moreover, farmers were impressed with the techniques and clamored for vendor information to purchase the U.S.-manufactured equipment. END SUMMARY.

## BACKGROUND

- Despite economic growth and increased opportunities in natural resource-rich Kazakhstan since the break-up of the former Soviet Union, rural households continue to rely heavily on agriculture for their livelihood. Increasing agricultural productivity and profitability is therefore essential to the long-term and sustainable development of the country's rural and predominantly poorer population. Moreover, as the recent global financial crisis and its impact on world fuel prices demonstrate, economic diversification remains an important goal of Kazakhstan and international development programs. The Central Asia region, like other parts of the developing world, has also experienced a shortage of basic food products this past year, further highlighting both the need for a strong agricultural sector in the region and the strong demand and need for continued food production.
- ¶3. With the break-up of the former Soviet Union, land previously controlled and managed through collective farms, or kolkhozes, was distributed among the former members of the kolkhozes. Most of these small farmers found their plots too small for producing a profitable crop of grain, and also found too much competition from China for fruits and vegetables. Some farmers partnered with neighbors to create larger crops and increase economies of scale, while others began breeding cattle for meat or harvesting other

crops, such as alfalfa.

14. Farmers also lacked access to agricultural specialists, quality inputs, and modern equipment. Dairy farmers in particular possessed only basic agricultural knowledge and were often wary of seeking new skills and information. Most of Kazakhstan's dairy farms are very small and are notable for their lack of modern machinery, their limited access to credit, poor herd nutrition, and very low milk production. As a result, the milk market in Kazakhstan relied heavily on imported milk products from neighboring countries.

## THE ECONOMIES OF ROTATIONAL GRAZING

- 15. Research on rotational grazing in the U.S. and other western countries has shown it to be at least as profitable as conventional methods of milk production as farmers realize variable cost-savings in the areas of feed, labor, fuel, and veterinary expenses. Additionally, over time, the necessary farm infrastructure and machinery for a rotational grazing operation can be reduced relative to traditional or barn feeding systems. This can reduce the investment level required and subsequently reduce the fixed costs of production as well. This is important for dairy farming in Central Asia, where productive and profitable dairy farms can be created with affordable levels of capital investment.

  ROTATIONAL GRAZING AND THE ENVIRONMENT
- 16. Rotational grazing also improves soil quality through reducing erosion. A permanent vegetative cover reduces erosion relative to tillage agriculture, since as the vegetative cover increases in density, less soil is lost by erosion. This improves pasture productivity and results in increased farm profitability. Moreover, well-managed dairy pastures contain twice the organic matter of that of tilled soils used for annual crops. This organic matter, which is primarily carbon, increases water absorption and moisture retention. The ability of pasture soils to hold carbon also has

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important benefits for air and water quality. Finally, it is "green," supporting efforts against global warming.

## WATER QUALITY

17. Well-managed grazing is one of the most effective ways to protect water quality in mainstream agriculture. Well-managed grazing systems reduce phosphorous and sediment runoff from agricultural land, including fecal matter, which has the potential to contaminate drinking water system. Well-managed pastures act as buffers and serve to protect water quality for the benefit of the environment and human health.

## SUSTAINABLE DAIRY AT WORK: GOT MILK?

- ¶8. Rotational grazing requires a relatively small capital investment by livestock owners and has resulted in significant increases in milk yields per cow. By demonstrating this innovative technology to Kazakhstani livestock owners, USAID's implementing partner, Winrock International, as well as its other partners (Gallagher Animal Management Systems, Kencove Farm Fence, Fisher and Thompson, Taurus Service, Taurus Service of Central Asia, Alipov-T and Kamyshinskoe Farms, the Dairy Union of Kazakhstan, Kazakhstan Land Cultivation Research Institute, and the University of Vermont) sought to enhance small- and medium-sized enterprise (SME) development in the dairy sector, and increase the incomes of rural families. Each partner provided critical components for the development of sustainable dairy production systems, including pasture management and water systems, milking management, breeding and reproduction, farm financial management, and technology transfer. The SD-GDA project also worked with local agribusiness concerns in order to develop and provide comprehensive packages of U.S.-manufactured supplies and technical assistance to farmers interested in adopting rotational grazing and sustainable dairy systems.
- $\P9$ . The SD-GDA project established demonstration sites on two pilot farms in Kazakhstan, which serve as powerful examples of the potential impact that rotational grazing can have on farming

operations. The first, Alipov-T Farm, is a small dairy farm located 40 kilometers east of Almaty. The farm milks 60 cows and harvests crops on approximately 200 hectares of land. Prior to its participation in the SD-GDA project, the farm kept all cows, bulls, and young stock in barns and barnyards, and used its land to produce corn, oats, barley, wheat, and hay for cattle feed. In spring 2008, the SD-GDA project helped the farm install a single-wire electrified fence around sections of the property and instituted a rotational grazing plan. After just one month, milk production jumped from 12 liters per cow per day to 15 liters per cow per day. The following month, changes were made to the grain feeding to better complement the pasture forage. Milk projection increased again to 17 liters per cow per day. In addition to the 42% increase in milk production and resulting revenue, the average feed costs for the herd fell by 67 percent, from \$3.55 to \$1.15 per cow per day.

110. The second farm, Kamyshinskoe Farm, is located 120 kilometers west of the city of Ust-Kamenagorsk. The farm has 1700 dairy cows, making it the largest herd of Ayrshire cattle in the world and the largest dairy farm in Kazakhstan. In the years prior to the SD-GDA project, some of the dairy cows grazed on hillside pastures. However, in spring 2008, the SD-GDA project helped fence 120 hectares of land for 300 cows from the dairy herd, and 20 hectares for the calves. Initially skeptical, farm managers quickly came around after observing milk production jump from 14.5 to 18 liters per cow per day. This 24 percent increase in milk output was also accompanied by a reduction in feed costs of 70 percent. The changes in grazing also increased the efficiency of farm labor, reducing the number of herders necessary from six to two and, thus, freeing up four workers to attend to other duties on the farm. The result has been an \$1100 increase in profit per day.

SPREADING THE WORD, INCREASING IMPACT AND SUSTAINABILITY

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- 111. In both August 2008 and in May 2009, the SD-GDA project held Open Field Days at both farms, attracting more than 200 farmers and extension service providers from Russia, Kyrgyzstan, and Kazakhstan's South Kazakhstan Karaganda, and Almaty oblasts interested in learning about rotational grazing and the potential impact of these techniques on their own farms.
- 112. A number of other organizations have also seen the value in the SD-GDA project and have become involved. For example, the Talgar Agricultural College attended the Field Days and thereafter sent groups of its students to the Alipov-T Farm to conduct soil sampling. Other students also assisted in fence construction at the farm. The Kazakh Meat Company (KMC) saw the value of rotational grazing methods and plans to use rotational grazing for its large beef production operation. KMC's owners attended the Field Day at the Alipov-T Farm and the SD-GDA project's technical advisor will work with KMC to further develop its plan. Moreover, the Kazakh Scientific Research Institute for Animal Husbandry and Forage Production selected Alipov-T Farm as one of the five farms on which it will conduct a three-year intensive research project on forage improvement and cattle reproduction for the purpose of training other farmers.
- 113. COMMENT: At a time of reduced economic growth in Kazakhstan, the SD-GDA project has introduced dairy farmers and the agricultural sector to simple methods that have had significant and lasting effects on farm profitability. It also opens commercial possibilities. The farmers present at the field day clamored for information about purchasing U.S.-produced equipment -- from the milking machines to the electric fences. While Kazakhstan's economy will continue to be dominated by its vast mineral resource sectors, agriculture will remain an important provider for much of the rural population. END COMMENT.